

Application No. 09/975,479
Amendment dated August 22, 2005
Reply to Final Office Action of May 25, 2005

Docket No. 1:32-4778

Amendments to the Claims:

Claims 1-19 are pending in this application. Claims 1, 9, 10, 18 and 19 are independent.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (CURRENTLY AMENDED): A communication terminal connected to, via a network, a service provider and to a look-up service that registers service objects defining services of the service provider, where the communication terminal uses the services of the service provider by using the service objects, the communication terminal comprising:

look-up service search means for searching the look-up service in the network;

determining means for determining whether said look-up service search means can search the look-up service;

first acquisition means for acquiring, if said determining means determines that said look-up service search means can search the look-up service, a desired service object transmitted from the searched look-up service by checking whether the desired service object is registered in the searched look-up service;

transmission request notification means for issuing, if said determining means determines that said look-up service search means cannot search the look-up service, a transmission request notification to the service provider in the network via the network in order to request the service provider to transmit a service object; and

second acquisition means ~~responsive to the transmission request notification from said transmission request notification means~~ for acquiring a desired service object transmitted from the service provider without involvement of the look-up service, the service object being transmitted from the service provider responsive to the transmission request notification issued by said transmission request notification means.

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2 (ORIGINAL): A communication terminal according to claim 1, wherein the service provider responds to a multi cast notification and transmits a service object of the service provider to a transmission originating site of the multi cast notification in order to register the service object in the transmission originating site.

3 (ORIGINAL): A communication terminal according to claim 2, wherein the transmission request notification by said transmission request notification means is performed by issuing the multi cast notification to the network.

4 (ORIGINAL): A communication terminal according to claim 2, wherein the look-up service issues the multi cast notification to the network, and registers the service object in response to a request from the service provider responding to the multi cast notification.

5 (ORIGINAL): A communication terminal according to claim 3, wherein another client is connected to the network, and responds to the multi cast notification to request a transmission site of the multi cast notification to search a desired service; and

wherein the communication terminal further comprises rejection means for rejecting a service search request from the other client.

6 (ORIGINAL): A communication terminal according to claim 1, wherein said second acquisition means includes service object reception means for receiving a service object transmitted from the service provider without involvement of the look-up service and filtering means for acquiring a desired service object by selecting from service objects received by said service object reception means.

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7 (ORIGINAL): A communication terminal according to claim 6, wherein said filtering means deletes a service object other than the desired service object, among the service objects received by said service object reception means.

8 (ORIGINAL): A communication terminal according to claim 1, wherein the service object includes an agent object which is program codes used for using each service of the service provider by the communication terminal, and attribute information of the service.

9 (CURRENTLY AMENDED): A service providing system in which a service provider and a look-up service in which service objects defining services of the service provider are registered, are connected to a communication terminal via a network where the communication terminal uses the services of the service provider by using the service objects, the communication terminal comprises:

look-up service search means for searching the look-up service in the network;

determining means for determining whether said look-up service search means can search the look-up service;

first acquisition means for acquiring, if said determining means determines that said look-up service search means can search the look-up service, a desired service object transmitted from the searched look-up service by checking whether the desired service object is registered in the searched look-up service;

transmission request notification means for issuing, if said determining means determines that said look-up service search means cannot search the look-up service, a transmission request notification to the service provider in the network via the network in order to request the service provider to transmit a service object; and

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second acquisition means ~~responsive to the transmission request notification from said transmission request notification means~~ for acquiring a desired service object transmitted from the service provider without involvement of the look-up service, the service object being transmitted from the service provider responsive to the transmission request notification issued by said transmission request notification means.

10 (CURRENTLY AMENDED): A method of using a service of a service provider by using a service object provided by the service provider, where a communication terminal is connected, via a network, to the service provider and to a look-up service in which service objects defining services of the service provider are registered, the method comprising:

a look-up service search step of searching the look-up service in the network;

a determining step of determining whether said look-up service search step can search the look-up service;

a first acquisition step of acquiring, if said determining means determines that said look-up service search step can search the look-up service, a desired service object transmitted from the searched look-up service by checking whether the desired service object is registered in the searched look-up service;

a transmission request notification step of issuing, if said determining means determines that said look-up service search step cannot search the look-up service, a transmission request notification to the service provider in the network via the network in order to request the service provider to transmit a service object; and

a second acquisition step ~~responsive to the transmission request notification in said transmission request notification step~~ for acquiring a desired service object transmitted from the service provider without involvement of the look-up service, the service object being

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transmitted from the service provider responsive to the transmission request notification issued by said transmission request notification step.

11 (ORIGINAL): A service use method according to claim 10, wherein the service provider responds to a multi cast notification and transmits a service object of the service provider to a transmission originating site of the multi cast notification in order to register the service object in the transmission originating site.

12 (ORIGINAL): A service use method according to claim 11, wherein the transmission request notification by said transmission request notification step is performed by issuing the multi cast notification to the network.

13 (ORIGINAL): A service use method according to claim 11, wherein the look-up service issues the multi cast notification to the network, and registers the service object in response to a request from the service provider responding to the multi cast notification.

14 (ORIGINAL): A service use method according to claim 12, wherein another client is connected to the network, and responds to the multi cast notification to request a transmission site of the multi cast notification to search a desired service; and
wherein the service use method further comprises a rejection step of rejecting a service search request from the other client.

15 (ORIGINAL): A service use method according to claim 10, wherein said second acquisition step includes:

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a service object reception step of receiving a service object transmitted from the service provider without involvement of the look-up service and a filtering step of acquiring a desired service object by selecting from service objects received in said service object reception step.

16 (ORIGINAL): A service use method according to claim 15, wherein said filtering step deletes a service object other than the desired service object, among the service objects received in said service object reception step.

17 (ORIGINAL): A service use method according to claim 10, wherein the service object includes an agent object which is program codes used for using each service of the service provider by the communication terminal, and attribute information of the service.

18 (CURRENTLY AMENDED): A storage medium storing a computer readable program for using a service of a service provider by using a service object provided by the service provider, where a communication terminal is connected, via a network, to the service provider and to a look-up service that registers service objects defining the services of the service provider, said computer readable program comprising codes for executing steps including:

a look-up service search step of searching the look-up service in the network;

a determining step of determining whether said look-up service search step can search the look-up service;

a first acquisition step of acquiring, if said determining means determines that said look-up service search step can search the look-up service, a desired service object transmitted from the searched look-up service by checking whether the desired service object is registered in the searched look-up service;

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a transmission request notification step of issuing, if said determining means determines that said look-up service search step cannot search the look-up service, a transmission request notification to the service provider in the network via the network in order to request the service provider to transmit a service object; and

a second acquisition step ~~responsive to the transmission request notification in said transmission request notification step~~ for acquiring a desired service object transmitted from the service provider without involvement of the look-up service, the service object being transmitted from the service provider responsive to the transmission request notification issued by said transmission request notification step.

19 (CURRENTLY AMENDED): A computer readable program for using a service of a service provider by using a service object provided by the service provider, wherein a communication terminal is connected, via a network, to the service provider and to a look-up service that registers service objects defining the services of the service provider, the program comprising codes for realizing steps which comprise:

a look-up service search step of searching the look-up service in the network;

a determining step of determining whether said look-up service search step can search the look-up service;

a first acquisition step of acquiring, if said determining means determines that said look-up service search step can search the look-up service, a desired service object transmitted from the searched look-up service by checking whether the desired service object is registered in the searched look-up service;

a transmission request notification step of issuing, if said determining means determines that said look-up service search step cannot search the look-up service, a transmission

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request notification to the service provider in the network via the network in order to request the service provider to transmit a service object; and

a second acquisition step ~~responsive to the transmission request notification in said transmission request notification step~~ for acquiring a desired service object transmitted from the service provider without involvement of the look-up service.